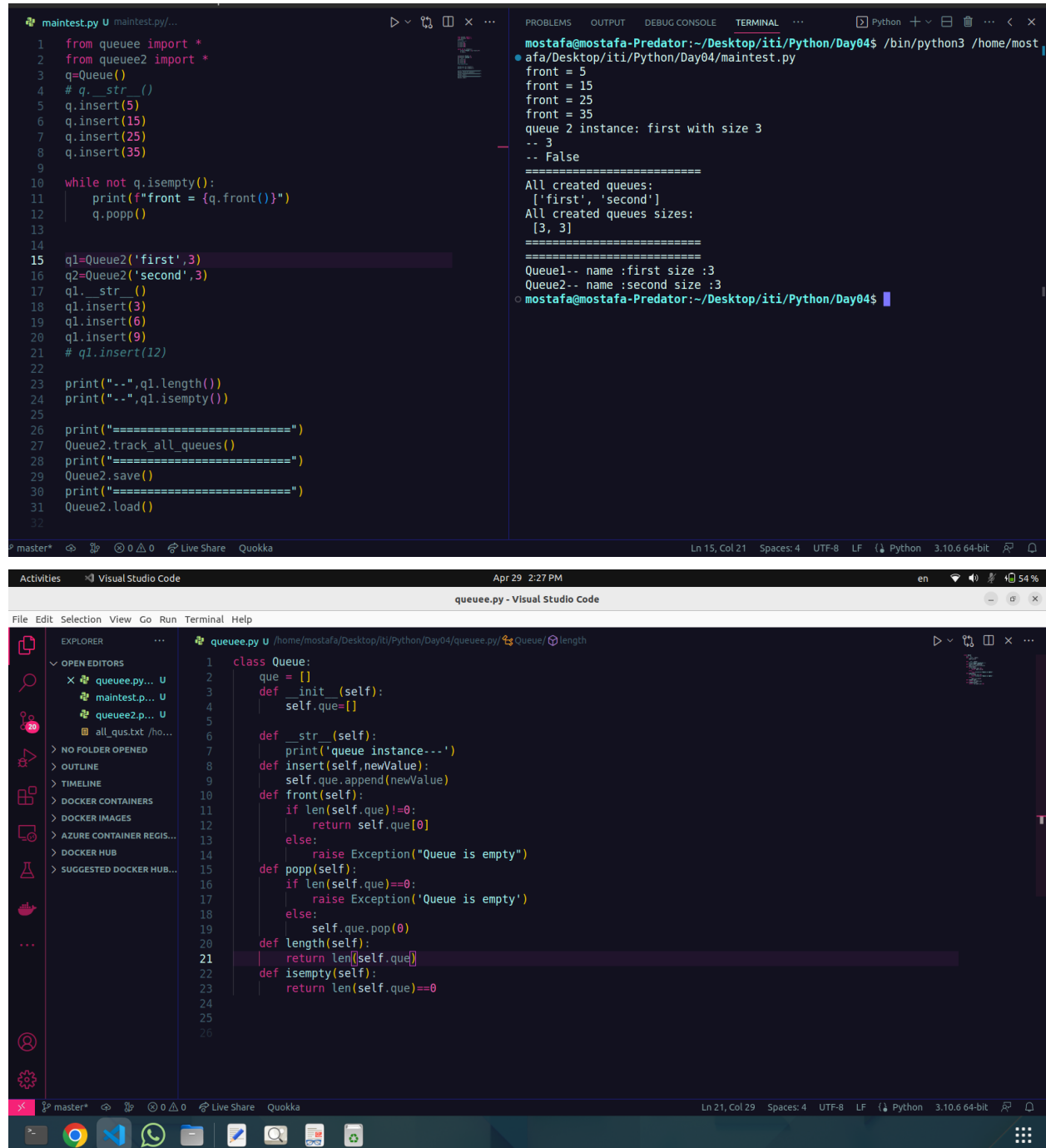


Mustafa Essam Abdelmenaem

Python Lab-4



The image shows a Visual Studio Code editor window with a Python script named `maintest.py` and its output in the terminal.

maintest.py:

```
1 from queue import *
2 from queue2 import *
3 q=Queue()
4 # q.__str__()
5 q.insert(5)
6 q.insert(15)
7 q.insert(25)
8 q.insert(35)
9
10 while not q.isempty():
11     print(f"front = {q.front()}")
12     q.popp()
13
14
15 q1=Queue2('first',3)
16 q2=Queue2('second',3)
17 q1.__str__()
18 q1.insert(3)
19 q1.insert(6)
20 q1.insert(9)
21 # q1.insert(12)
22
23 print("--",q1.length())
24 print("--",q1.isempty())
25
26 print("=====")
27 Queue2.track_all_queues()
28 print("=====")
29 Queue2.save()
30 print("=====")
31 Queue2.load()
32
```

Terminal Output:

```
mostafa@mostafa-Predator:~/Desktop/iti/Python/Day04$ /bin/python3 /home/mostafa/Desktop/iti/Python/Day04/maintest.py
front = 5
front = 15
front = 25
front = 35
queue 2 instance: first with size 3
-- 3
-- False
=====
All created queues:
['first', 'second']
All created queues sizes:
[3, 3]
=====
Queue1-- name :first size :3
Queue2-- name :second size :3
mostafa@mostafa-Predator:~/Desktop/iti/Python/Day04$
```

queue.py:

```
1 class Queue:
2     que = []
3     def __init__(self):
4         self.que=[]
5
6     def __str__(self):
7         print('queue instance---')
8
9     def insert(self,newValue):
10        self.que.append(newValue)
11
12    def front(self):
13        if len(self.que)!=0:
14            return self.que[0]
15        else:
16            raise Exception("Queue is empty")
17
18    def popp(self):
19        if len(self.que)==0:
20            raise Exception('Queue is empty')
21        else:
22            self.que.pop(0)
23
24    def length(self):
25        return len(self.que)
26
27    def isempty(self):
28        return len(self.que)==0
```

```
queuee2.py U queuee2.py/Queue2
1 from queuee import *
2 class Queue2(Queue):
3     ques_names = []
4     ques_sz = []
5
6     def __init__(self,name,size):
7         super(Queue2,self).__init__()
8         self.name=name
9         self.size=size
10
11         Queue2.ques_names.append(name)
12         Queue2.ques_sz.append(size)
13
14     def __str__(self):
15         print(f"queue 2 instance: {self.name} with size {self.size} ")
16
17     def insert(self,newValue):
18         if len(self.que)+1 > self.size:
19             raise Exception('Limited Size')
20         else:
21             self.que.append(newValue)
22
23     @staticmethod
24     def track_all_queues():
25         print("All created queues:\n",Queue2.ques_names)
26         print("All created queues sizes:\n",Queue2.ques_sz)
27
28     @staticmethod
```

Bonus -----

```
EXPLORER
OPEN EDITORS
Welcome
mainest.py U
Mustafa E... U
all_qus.txt U
queuee.py U
queuee2.py U
DAY04
__pycache__
all_qus.txt
mainest.py
Mustafa Essam ...
queuee.py
queuee2.py
OUTLINE
TIMELINE
DOCKER CONTAINERS
DOCKER IMAGES
AZURE CONTAINER REGIS...
DOCKER HUB
SUGGESTED DOCKER HUB

queuee2.py U queuee2.py/...
19 def insert(self,newValue):
20     if len(self.que)+1 > self.size:
21         raise Exception('Limited Size')
22     else:
23         self.que.append(newValue)
24
25     @staticmethod
26     def track_all_queues():
27         print("All created queues:\n",Queue2.ques_names)
28         print("All created queues sizes:\n",Queue2.ques_sz)
29
30     @staticmethod
31     def save():
32         qus_file=open("all_qus.txt",'r+')
33         for i in range(len(Queue2.ques_names)):
34             qus_file.writelines(f"Queue{i+1}-- name :{Queue2.ques_names[i]}")
35         qus_file.close()
36
37     @staticmethod
38     def load():
39         qus_file=open("all_qus.txt",'r+')
40         lines=qus_file.readlines()
41         for line in lines:
42             print(line,end="")
43         qus_file.close()
44
45
46
47
48
49

Python
mostafa@mostafa-Predator:~/Desktop/iti/Python/Day04$ /bin/python3 /home/mostafa/Desktop/iti/Python/Day04/mainest.py
queue 2 instance: first with size 3
-- 3
-- False
=====
All created queues:
['first', 'second']
All created queues sizes:
[3, 3]
=====
Queue1-- name :first size :3
Queue2-- name :second size :3
mostafa@mostafa-Predator:~/Desktop/iti/Python/Day04$
```

